

FIG. 1A

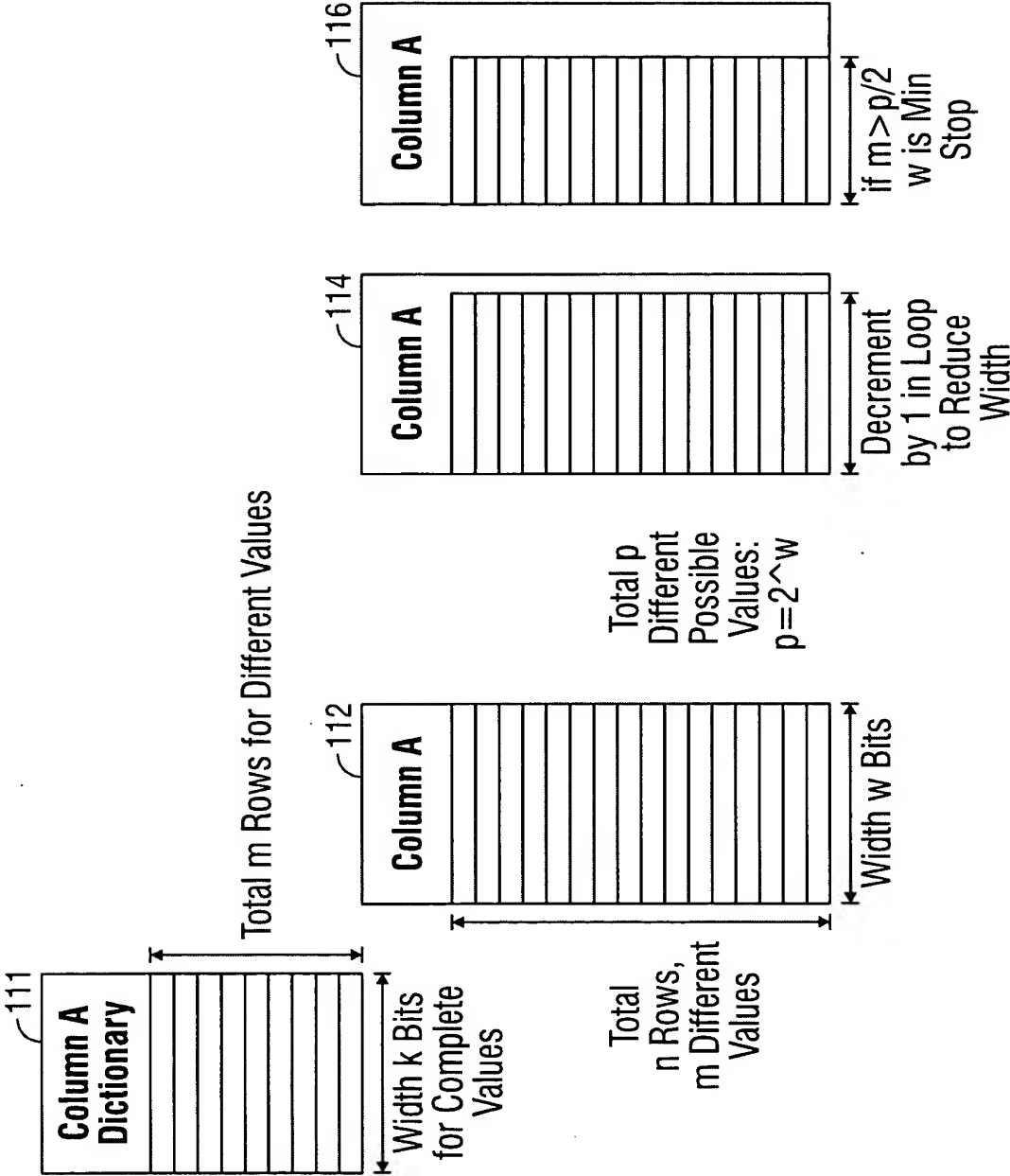


FIG. 1B

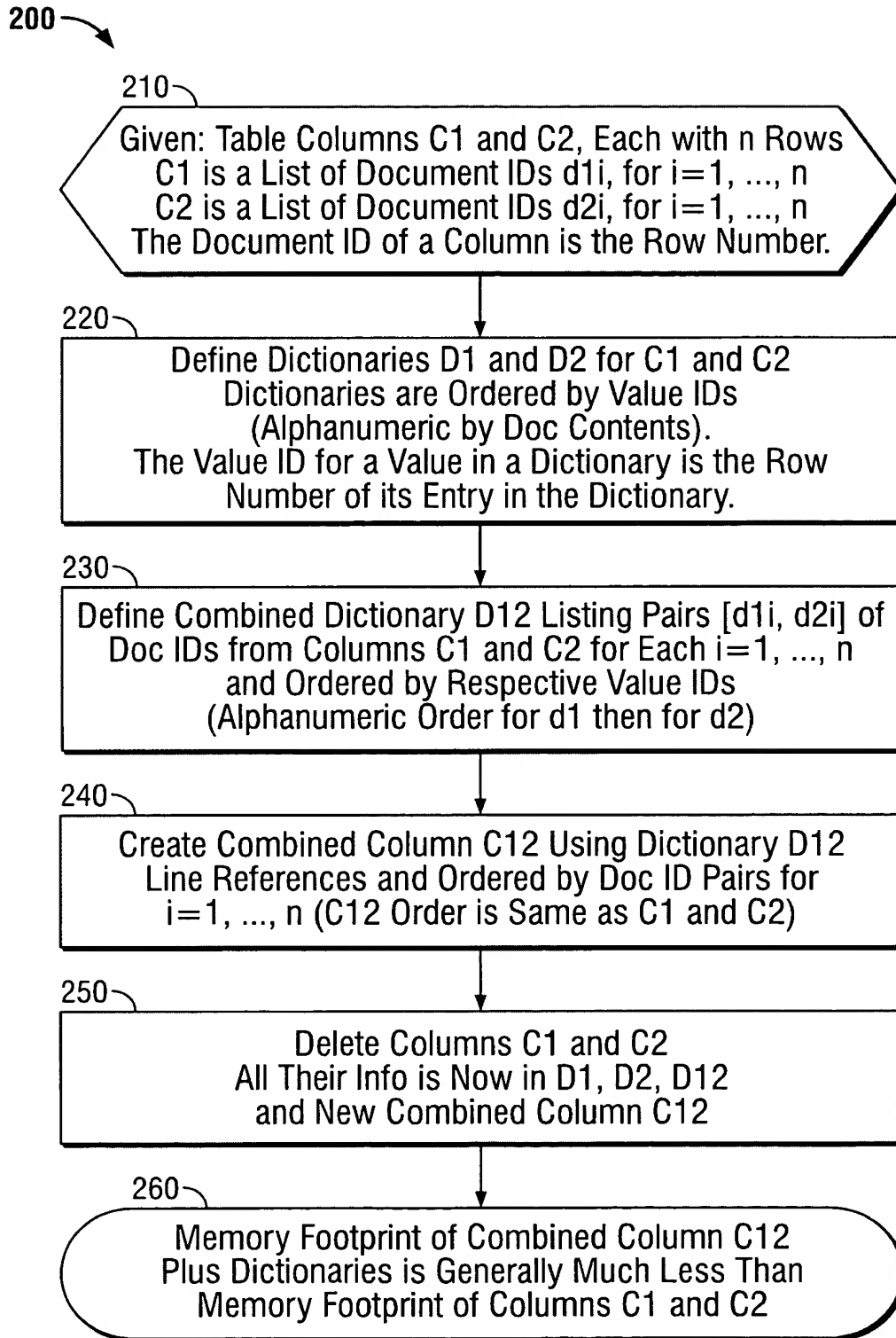


FIG. 2A

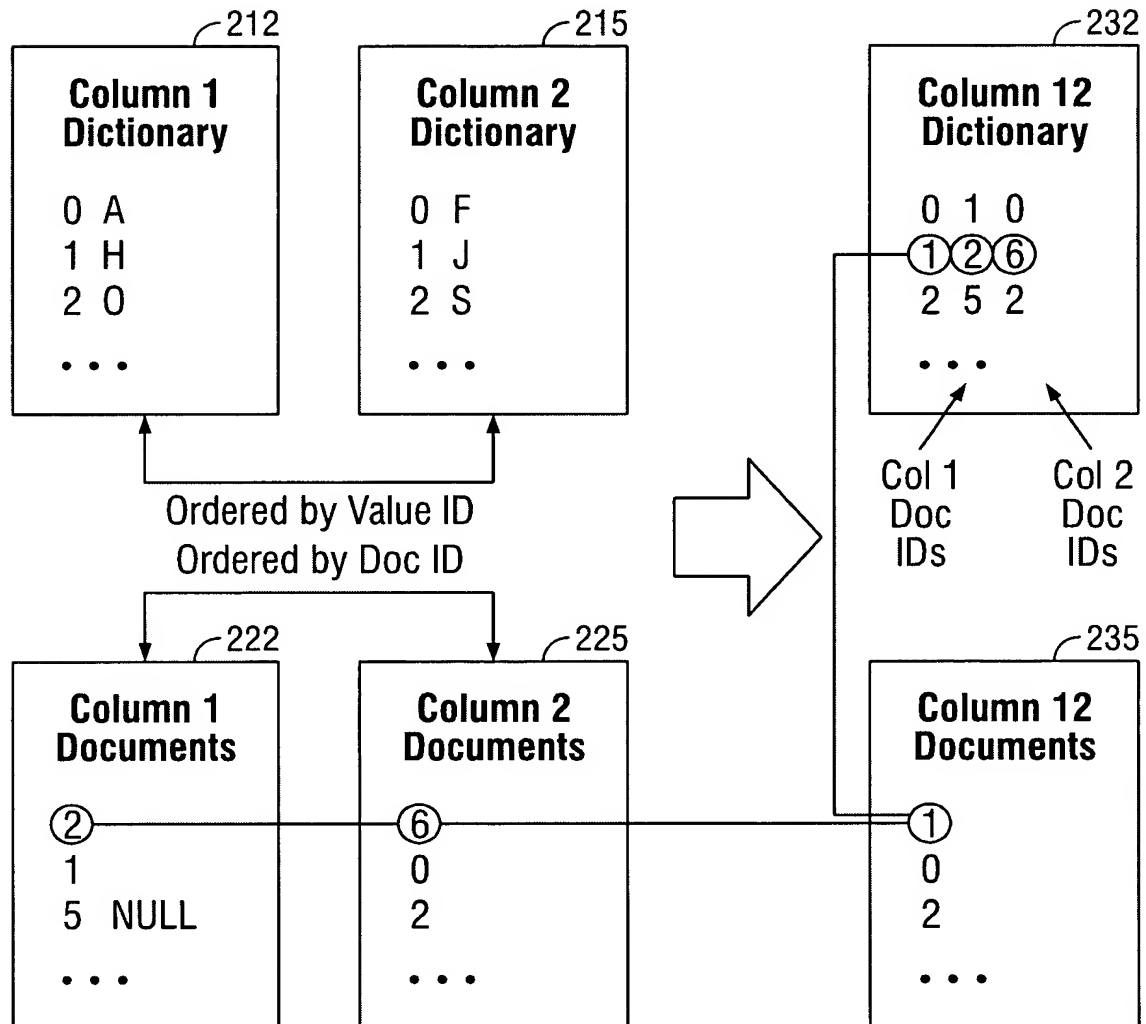


FIG. 2B

Memory Required (Bits)	Column	Dictionary
Original 1	$n * w1$	$m1 * k1$
Original 2	$n * w2$	$m2 * k2$
Combined 12 (Worst Case)	$n * (w1 + w2)$	$m1 * m2 * (w1 + w2)$
Combined 12 (Best Case)	$n * wm$	$mm * (w1 + w2)$

Key

n	Number of Rows in Original Columns (and in Original Table)
w_j	Width of Column j in Bits (Minimized as in Method 100, Fig. 1A)
m_j	Cardinality of Column j (i.e., Number of Different Values in Column j)
k_j	Width of Widest Value in Column j in Bits (Typically, $k_j > w_j$)
m	Maximum of m_1 and m_2 (i.e., Larger of the Two Values)
w_m	Maximum of w_1 and w_2 (i.e., Larger of the Two Values)

FIG. 3